

## SEQUENCE LISTING

JC20 Rec'd PCT/PTO 05 JUL 2005

<110> bioMérieux  
Centre National de la Recherche Scientifique (CNRS) [National Center for  
Scientific Research]  
University Claude Bernard Lyon 1

<120> Polypeptides F' of the hepatitis C virus, T epitopes, and the diagnostic  
and therapeutic applications thereof

<130> Polypeps F'

<150> FR03/00094  
<151> 2003-01-07

<160> 434

<170> PatentIn version 3.1

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 20 25 30

Xaa Gly Xaa Ser Xaa Gly Xaa Xaa Gly Xaa Ser Xaa Xaa Xaa Arg Xaa  
 35 40 45

Xaa Xaa Gly Xaa Asp Gly Ser Cys Xaa Pro Xaa Xaa Xaa Gly Leu Xaa  
 50 55 60

Gly Ala Xaa Xaa Thr Pro Xaa Xaa Gly Xaa Xaa Xaa Trp Val Xaa Ser  
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			20					25					30		

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
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Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
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Ser Ser Ala

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20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Val Leu Gly Leu Val  
50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Lys Ser  
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
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Ser Ser Ala

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			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Ala	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Gln	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70				75						80
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Ser Ser Ala

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Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Gly	Pro	Arg	Val	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Leu	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Ala	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Gln	Thr	Pro	Gly	Val	Gly	Arg	Val	Thr	Trp	Val	Lys	Ser
65					70				75						80
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Ser Ser Ala

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 Pro Gly Leu Ser Leu Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Leu Met Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
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 Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
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 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Leu Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Met Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
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Ser Ser Ala



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 20 25 30  
 Pro Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Ala  
 50 55 60  
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 Ser Ser Ala

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 20 25 30  
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
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Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Gly	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Ala	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Leu	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70					75					80
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			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Glu	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Leu	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70					75					80
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 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Thr Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
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 Ser Ser Ala

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 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Met Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

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          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
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Ser Ser Ala

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          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala

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 Ala Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ile Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Leu Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

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 Ala Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ile Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys Arg Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Leu Pro Thr Ser Trp Gly Thr Phe Arg  
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Val Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu  
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 Val Glu Gly Asp Asn Leu Phe Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Leu Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg  
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 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
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 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser  
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 Ser Ile Pro Ser His Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg  
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 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
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 20 25 30  
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 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
 50 55 60  
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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Pro Thr Arg Val  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 24  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 24

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15



Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
                   20                  25                  30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Val  
           35                  40                  45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Ala  
       50                  55                  60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
   65                  70                  75                  80  
 Ser Ile Pro Leu Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
                   85                  90                  95  
 Ser Ser Ala

<210> 25  
 <211> 99  
 <212> PRT  
 <213> Artificial sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 25

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1                  5                  10                  15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Ala Gly  
           20                  25                  30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val  
       35                  40                  45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Val  
       50                  55                  60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser  
   65                  70                  75                  80  
 Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
                   85                  90                  95  
 Ser Ser Ala

<210> 26  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 26

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1                  5                  10                  15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Gly Ala Leu Gly Leu Val  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Leu Ser Ala

<210> 27  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 27

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Val  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Val  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Leu Ser Ala

<210> 28  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 28

Ser Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30

[illegible]

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<210> 29
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 29
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[illegible]

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<210> 30
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 30
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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Phe Ala Gly Pro Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Gly Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Leu His Ala Gly Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 31  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 31

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Leu Ser Ala

<210> 32  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 32

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Ile  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Leu Ser Ala

<210> 33

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 33

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly His Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Arg Gly Leu Val  
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Leu Ser Ala

<210> 34

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 34

Gly Trp Val Cys Ala Arg Gly Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Ala Asp Asn Leu Ser Pro Arg Leu Ala Val Pro Arg Glu Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val  
35 40 45

Trp Gly Gly Leu Asp Gly Ser Cys His Pro Glu Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Ser Ser Ala

<210> 35  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 35

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Ser Ser Ala

<210> 36  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 36

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Val  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Ser Gln Val Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210> 37

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 37

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Pro Gly Pro Ser Met Ala Met Arg Val  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
50 55 60

Gly Ala Pro Gln Thr Pro Gly Ala Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210> 38

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 38

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Pro Gly Pro Ser Met Ala Met Arg Val  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
50 55 60

Gly Ala Pro Gln Thr Pro Gly Ala Gly Arg Val Ile Trp Val Gly Ser  
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210> 39

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 39

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Pro Gly Pro Ser Met Ala Met Arg Val  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210> 40

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 40

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Leu Ser Met Ala Met Arg Ala  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser  
65 70 75 80



Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

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<210> 41
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>  
<223> anti-HCV immunogenic peptide

<400> 41

Gly 1	Trp	Val	Cys	Ala 5	Arg	Leu	Gly	Arg	Leu 10	Pro	Ser	Gly	Arg	Asn 15	Leu
Val	Glu	Gly	Asp 20	Asn	Leu	Ser	Pro	Arg 25	Leu	Ala	Gly	Pro	Arg 30	Ala	Gly
Pro	Gly	Leu 35	Ser	Pro	Gly	Thr	Leu 40	Gly	Leu	Ser	Met	Ala 45	Met	Arg	Val
Trp 50	Gly	Gly	Gln	Asp	Gly	Ser 55	Cys	Arg	Pro	Val	Ala 60	Leu	Gly	Leu	Val
Gly 65	Ala	Pro	Arg	Thr	Pro 70	Gly	Val	Gly	Arg	Val 75	Ile	Trp	Val	Arg	Ser 80
Ser	Ile	Pro	Ser	His 85	Ala	Ala	Ser	Pro	Thr 90	Ser	Trp	Gly	Thr	Phe 95	Arg

Ser Ser Ala

<210>	42
<211>	99
<212>	PRT
<213>	Artificial Sequence

<220>  
<223> anti-HCV immunogenic peptide

<400> 42

Gly 1	Trp	Val	Cys	Ala 5	Arg	Leu	Gly	Arg	Leu 10	Pro	Ser	Gly	Arg	Asn 15	Leu
Val	Glu	Gly	Asp 20	Asn	Leu	Ser	Pro	Arg 25	Leu	Ala	Gly	Pro	Arg 30	Ala	Gly
Pro	Gly	Leu 35	Ser	Pro	Gly	Thr	Leu 40	Gly	Leu	Ser	Met	Ala 45	Met	Arg	Val
Trp	Gly 50	Gly	Gln	Asp	Gly	Ser 55	Cys	Arg	Pro	Val	Ala 60	Pro	Gly	Leu	Val
Gly 65	Ala	Pro	Arg	Thr 70	Pro	Gly	Val	Gly	Arg 75	Val	Ile	Trp	Val	Arg	Ser 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210>	43
<211>	99
<212>	PRT
<213>	Artificial Sequence

<220>  
<223> anti-HCV immunogenic peptide

<400> 43

Gly 1	Trp	Val	Cys	Ala 5	Arg	Leu	Gly	Arg	Leu 10	Pro	Ser	Gly	Arg	Asn 15	Leu
Val	Glu	Gly	Asp 20	Asn	Leu	Ser	Pro	Arg 25	Leu	Ala	Gly	Pro	Arg 30	Ala	Gly
Pro	Gly	Leu 35	Ser	Pro	Gly	Thr	Leu 40	Gly	Pro	Ser	Met	Ala 45	Met	Arg	Ala
Trp	Gly 50	Gly	Gln	Asp	Gly	Ser 55	Cys	His	Pro	Val	Ala 60	Leu	Gly	Leu	Val
Gly 65	Ala	Pro	Gln	Thr	Pro 70	Gly	Val	Gly	Arg	Val 75	Ile	Trp	Val	Arg	Ser 80
Ser	Ile	Pro	Ser	His 85	Ala	Ala	Ser	Pro	Thr 90	Ser	Trp	Gly	Thr	Phe 95	Arg

Leu Ser Ala

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<210> 44
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>  
<223> anti-HCV immunogenic peptide

<400> 44

Gly 1	Trp	Val	Cys	Ala 5	Arg	Leu	Gly	Arg 10	Leu	Pro	Ser	Gly	Arg	Asn 15	Leu
Val	Glu	Gly	Asp 20	Asn	Leu	Ser	Pro	Arg 25	Leu	Ala	Gly	Pro	Arg 30	Ala	Gly
Pro	Gly	Leu 35	Ser	Pro	Gly	Thr	Leu 40	Gly	Pro	Ser	Met	Ala 45	Met	Arg	Ala
Trp	Gly 50	Gly	Gln	Asp	Gly	Ser 55	Cys	His	Pro	Val	Ala 60	Leu	Gly	Leu	Val
Gly 65	Ala	Pro	Gln	Thr	Pro 70	Gly	Val	Gly	Arg	Val 75	Ile	Trp	Val	Arg	Ser 80
Ser	Ile	Pro	Ser	His 85	Ala	Ala	Ser	Pro	Thr 90	Ser	Trp	Gly	Thr	Phe 95	Arg

Ser Ser Ala

<210> 45  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 45

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Asp	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Ile	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Leu	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Ala	Ala	Pro	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Ser	His	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 46  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 46

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Asp	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Ala	Ala	Pro	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Ser	His	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Ile	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 47  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 47

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Asp	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Asp	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Ala	Ala	Pro	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Thr	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Leu	His	Ala	Ala	Ser	Pro	Ile	Ser	Trp	Gly	Ile	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 48  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 48

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Gln	Arg	Leu	Ala	Asn	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Ala	Ala	Pro	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Thr	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Leu	His	Ala	Ala	Ser	Pro	Ile	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 49  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 49

Gly Trp Val Cys Val Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Gln Arg Leu Ala Asn Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Leu His Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg  
 85 90 95

Ser Ser Ala

<210> 50  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 50

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asn Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Leu His Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg  
 85 90 95

Ser Ser Ala

<210> 51  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> anti-HCV immunogenic peptide  
  
 <400> 51

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Val Asp Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 52  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> anti-HCV immunogenic peptide  
  
 <400> 52

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asn Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 53  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide  
 <400> 53

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asn Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 54  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide  
 <400> 54

Gly Trp Val Cys Ala Arg Pro Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Leu Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 55  
 <211> 99

<212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 55

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 56  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 56

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Pro Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 57  
 <211> 99  
 <212> PRT



<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 57

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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Lys Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Glu Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala

```

<210> 58

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 58

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala

```

<210> 59

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 59

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
          20          25          30
Pro Gly His Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala

```

<210> 60

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 60

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65          70          75          80
Ser Thr Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala

```

<210> 61

<211> 99

<212> PRT

<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 61

Gly Trp Val Cys Ala Arg Ser Gly Arg Leu Pro Ser Gly Arg Asn Pro  
 1 5 10 15  
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

&lt;210&gt; 62

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 62

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

&lt;210&gt; 63

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 63

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys Arg Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

&lt;210&gt; 64

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 64

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Thr Ala Thr Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Val Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

&lt;210&gt; 65

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 65

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Arg Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Ile Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 66  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 66

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Asn Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys Leu Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Thr Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Leu Ser Ala

<210> 67  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 67

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Asn Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys Leu Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Thr Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 68  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 68

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95  
 Ser Ser Ala

<210> 69  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 69

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Phe Ala Ser Pro Arg Ala Gly  
                   20                  25                  30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
           35                  40                  45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
       50                  55                  60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
   65                  70                  75                  80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
                   85                  90                  95  
 Ser Ser Ala

<210> 70  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 70

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1                  5                  10                  15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly  
           20                  25                  30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
       35                  40                  45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
       50                  55                  60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
   65                  70                  75                  80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
                   85                  90                  95  
 Ser Ser Ala

<210> 71  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 71

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1                  5                  10                  15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Ile  
 50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Ser Ser Ala

<210> 72  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 72

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Pro Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95

Ser Ser Ala

<210> 73  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 73

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly  
 20 25 30



[illegible]

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<210> 74
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 74
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[illegible]

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<210> 75
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 75
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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
20 25 30

Pro	Gly	Leu 35	Ser	Pro	Gly	Thr	Leu 40	Gly	Pro	Ser	Met	Ala 45	Thr	Arg	Ala
Trp	Gly 50	Gly	Gln	Asp	Gly	Ser 55	Cys	His	Pro	Val	Ala 60	Pro	Gly	Leu	Val
Gly 65	Ala	Pro	Val	Thr	Pro 70	Gly	Val	Gly	Arg	Val 75	Ile	Trp	Val	Arg	Ser 80
Ser	Ile	Pro	Ser	His 85	Ala	Ala	Ser	Pro	Thr 90	Ser	Trp	Gly	Thr	Phe 95	Arg
Ser	Ser	Ala													

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<210> 76
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 76
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[illegible]

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<210> 77
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 77
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Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Thr Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Leu Ser Ala

<210> 78

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 78

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Thr Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Leu Ser Ala

<210> 79

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 79

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Met Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Leu Ser Ala

<210> 80

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 80

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Leu Ser Ala

<210> 81

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 81

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 82  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 82

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 83  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 83

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 84  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 84

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 85  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 85

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys Pro Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

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<210> 86
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>  
<223> anti-HCV immunogenic peptide

<400> 86

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Ser	Pro	Arg	Ala	Gly
			20					25					30		

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Leu Ser Ala

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<210> 87
<211> 99
<212> PRT
<213> Artificial sequence
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<220>  
<223> anti-HCV immunogenic peptide

<400> 87

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210> 88  
<211> 99  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> anti-HCV immunogenic peptide  
  
<400> 88

Gly Trp Val Cys Ala Gln Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15  
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
20 25 30  
Pro Gly Pro Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala  
35 40 45  
Trp Asp Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
50 55 60  
Gly Ala Pro Leu Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80  
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210> 89  
<211> 99  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> anti-HCV immunogenic peptide  
  
<400> 89

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15  
Val Glu Gly Asp Ser Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
20 25 30  
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala  
35 40 45  
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Ile  
50 55 60  
Gly Ala Leu Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80  
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95



Ser Ser Ala

<210> 90  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 90

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Val	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Asp	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Val	Ile	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	Pro	Pro	Val	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Met	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Ser	His	Ala	Val	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 91  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 91

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Ser	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Ile	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Val	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Ser	His	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 92  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 92

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Ser	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Ile	Pro	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35				40						45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Val	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70					75					80
Ser	Ile	Pro	Ser	His	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 93  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 93

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Ala	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Ser	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	His	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35				40						45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Val	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70					75					80
Ser	Ile	Pro	Ser	His	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 94  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 94

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 95  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 95

Gly Trp Val Cys Ala Arg Arg Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Leu Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Glu Ala Leu Gly Leu Ile  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Lys Ser  
 65 70 75 80  
 Ser Thr Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 96  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 96

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Ile
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Lys Ser
65          70          75          80
Ser Thr Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
          85          90          95
Ser Ser Ala
```

<210> 97  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 97

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Lys Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala
```

<210> 98  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 98

Gly Trp Val Cys Ala Arg Arg Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Pro Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 99  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 99

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Gly Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 100  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 100

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Gly Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Gly
```

<210> 101  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 101

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Phe Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys Leu Pro Ala Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Met Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala
```

<210> 102  
 <211> 99

<212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 102

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Ser	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	Leu	Pro	Ala	Ala	His	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Met	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70					75					80
Ser	Ile	Pro	Ser	His	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 103  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 103

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Ser	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Val	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Ala	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70					75					80
Ser	Ile	Pro	Ser	His	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 104  
 <211> 99  
 <212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 104

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

<210> 105

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 105

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr His Gly Pro Ser Met Ala Thr Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys Pro Pro Val Ala Leu Gly Leu Ile
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

<210> 106

<211> 99

<212> PRT

<213> Artificial Sequence



&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 106

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Leu Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr His Gly Pro Ser Thr Ala Thr Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys Pro Pro Val Ala Pro Gly Leu Ala  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

&lt;210&gt; 107

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 107

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala  
 35 40 45  
 Trp Asp Gly Arg Asp Gly Ser Cys Pro Pro Val Val Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

&lt;210&gt; 108

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 108

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val  
 35 40 45  
 Trp Asp Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Thr Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

&lt;210&gt; 109

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 109

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Leu Gly Thr Pro Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Asp Gly Gln Asp Gly Ser Cys Pro Pro Ala Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Pro Leu Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

&lt;210&gt; 110

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 110

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Val  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Leu Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95  
 Ser Ser Ala

<210> 111  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 111

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Pro  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Val  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
 50 55 60  
 Gly Ala Leu Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95  
 Ser Ser Ala

<210> 112  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 112

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ile Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95  
 Ser Ser Ala

<210> 113  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 113

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Pro Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Pro Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Thr Pro Pro His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 114  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 114

Gly Trp Val Cys Ala Gln Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ile Pro Arg Ala Gly  
                   20                  25                  30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Ala Met Arg Ala  
           35                  40                  45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
       50                  55                  60  
 Gly Ala Pro Met Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
   65                  70                  75                  80  
 Ser Ile Pro Ser His Ala Ala Leu Pro Thr Ser Trp Gly Thr Phe Arg  
                   85                  90                  95  
 Ser Ser Ala

<210> 115  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 115

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
   1                  5                  10                  15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
           20                  25                  30  
 Thr Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala  
       35                  40                  45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
       50                  55                  60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
   65                  70                  75                  80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
                   85                  90                  95  
 Ser Ser Ala

<210> 116  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 116

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
   1                  5                  10                  15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Ala Gly  
 20 25 30  
 Thr Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 117  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 117

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Thr Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Phe Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 118  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 118

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30

[illegible]

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<210> 119
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 119
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[illegible]

```
<210> 120
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 120
```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys Pro Pro Ala Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Ser Ser Ala

<210> 121  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 121

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Ile  
 50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Ser Ser Ala

<210> 122  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 122

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Phe Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
 35 40 45



Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 123  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 123

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 124  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 124

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Val  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Ser Ser Ala

<210> 125  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 125

Gly Trp Val Cys Ala Arg Pro Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Thr Ala Pro Gly Leu Gly  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
 65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95

Ser Ser Gly

<210> 126  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 126

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val  
 35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Thr Ala Pro Gly Leu Gly  
 50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210> 127

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 127

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Val  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Thr Ala Pro Gly Leu Gly  
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210> 128

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 128

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Val  
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
85 90 95

Ser Ser Ala

<210> 129

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 129

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu  
1 5 10 15

Val Ala Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val  
50 55 60

Gly Ala Pro Gln Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
85 90 95

Ser Ser Ala

<210> 130

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 130

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala  
35 40 45

Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val  
50 55 60

Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
85 90 95

Ser Ser Val

```
<210> 131
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>
<223> anti-HCV immunogenic peptide
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<400> 131

Gly 1	Trp	Val	Cys	Ala 5	Arg	Pro	Gly	Arg	Leu 10	Pro	Ser	Gly	Arg	Asn 15	Leu
Val	Glu	Gly	Asp 20	Asn	Leu	Ser	Pro	Arg 25	Leu	Ala	Asn	Pro	Arg 30	Ala	Gly
Pro	Gly	Leu 35	Ser	Pro	Gly	Thr	Leu 40	Gly	Pro	Ser	Met	Ala 45	Met	Arg	Val
Trp	Gly 50	Gly	Gln	Asp	Gly	Ser 55	Cys	His	Pro	Val	Val 60	Leu	Gly	Leu	Val
Gly 65	Ala	Pro	Arg	Thr	Pro 70	Gly	Val	Gly	Arg	Val 75	Ile	Trp	Val	Arg	Ser 80
Ser	Ile	Pro	Leu	His 85	Ala	Ala	Ser	Pro	Thr 90	Ser	Trp	Gly	Thr	Phe 95	Arg

Ser Ser Ala

```
<210> 132
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>  
<223> anti-HCV immunogenic peptide

$\langle 400 \rangle$  132

Gly 1	Trp	Val	Cys	Ala 5	Arg	Ser	Gly	Arg	Leu 10	Pro	Ser	Gly	Arg	Asn 15	Leu
Val	Glu	Gly	Asp 20	Asn	Leu	Ser	Pro	Arg 25	Leu	Ala	Asp	Pro	Arg 30	Ala	Gly
Pro	Gly	Leu 35	Ser	Pro	Gly	Thr	Leu 40	Gly	Pro	Ser	Met	Ala 45	Met	Arg	Ala
Trp	Gly 50	Gly	Gln	Asp	Gly	Ser 55	Cys	His	Pro	Val	Val 60	Leu	Gly	Leu	Val
Gly 65	Ala	Pro	Gln	Thr 70	Pro	Gly	Val	Gly	Arg 75	Val	Ile	Trp	Val	Arg 80	Ser

Ser Ile Pro Leu His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

```
<210> 133
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>  
<223> anti-HCV immunogenic peptide

<400> 133

Gly 1	Trp	Val	Cys	Ala 5	Arg	Leu	Gly	Arg	Leu 10	Pro	Ser	Gly	His	Asn 15	Leu
Val	Glu	Gly	Asp 20	Asn	Leu	Ser	Pro	Arg 25	Leu	Ala	Val	Pro	Arg 30	Ala	Gly
Pro	Gly	Leu 35	Ser	Pro	Gly	Thr	Leu 40	Gly	Pro	Ser	Met	Ala 45	Met	Arg	Ala
Trp	Gly 50	Gly	Gln	Asp	Gly	Ser 55	Cys	His	Pro	Glu	Ala 60	Pro	Gly	Leu	Ile
Gly 65	Ala	Pro	Arg	Thr	Pro 70	Gly	Val	Gly	Arg	Val 75	Ile	Trp	Val	Arg	Ser 80
Ser	Ile	Pro	Ser	His 85	Ala	Ala	Ser	Pro	Thr 90	Ser	Trp	Gly	Thr	Phe 95	Arg

Ser Ser Ala

```
<210> 134
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>  
<223> anti-HCV immunogenic peptide

<400> 134

Gly 1	Trp	Val	Cys	Ala 5	Arg	Leu	Gly	Arg	Leu 10	Pro	Ser	Gly	Arg	Asn 15	Leu
Val	Glu	Gly	Asp 20	Asn	Leu	Ser	Pro	Arg 25	Leu	Ala	Asn	Pro	Arg 30	Ala	Gly
Pro	Gly	Leu 35	Ser	Pro	Gly	Thr	Leu 40	Gly	Pro	Ser	Met	Pro 45	Met	Arg	Ala
Trp	Gly 50	Gly	Gln	Asp	Gly	Ser 55	Cys	His	Pro	Glu	Ala 60	Pro	Gly	Leu	Ile
Gly 65	Ala	Pro	Arg	Thr	Pro 70	Gly	Val	Gly	Arg	Val 75	Ile	Trp	Val	Arg	Ser 80
Ser	Ile	Pro	Leu	His 85	Ala	Ala	Ser	Pro	Thr 90	Ser	Trp	Gly	Thr	Phe 95	Arg

Ser Ser Ala

<210> 135  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 135

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Asn	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Val	Ala	Leu	Gly	Leu	Ile
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70				75						80
Ser	Ile	Pro	Ser	His	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 136  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 136

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Ile	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Leu	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
		35					40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Val	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Ala	Ile	Trp	Val	Arg	Ser
65					70				75						80
Ser	Ile	Pro	Ser	Arg	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 137  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 137

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Val	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
			35				40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Val	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Ala	Ile	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Ser	Arg	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Leu Ser Ala

<210> 138  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 138

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Gly	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
			35				40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Val	Val	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Ala	Ile	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Ser	Arg	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala



<210> 139  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 139

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly His Asn Leu
1          5          10          15
Val Asp Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Ala Gly
          20          25          30
Pro Gly Pro Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

<210> 140  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 140

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Arg Gly Ile Leu Gly Pro Ser Met Ala Thr Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Val Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Val

```

<210> 141  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> anti-HCV immunogenic peptide  
  
 <400> 141

Gly	Trp	Val	Cys	Ala	Arg	Leu	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Ser	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Pro	Ser	Pro	Gly	Ile	Leu	Gly	Pro	Ser	Met	Ala	Thr	Arg	Ala
			35				40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Val	Ala	Leu	Gly	Leu	Ala
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Ser	Arg	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Phe	Arg
				85					90					95	

Ser Ser Ala

<210> 142  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> anti-HCV immunogenic peptide  
  
 <400> 142

Gly	Trp	Val	Cys	Ala	Arg	Pro	Gly	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Val	Glu	Gly	Asp	Asn	Leu	Ser	Pro	Arg	Leu	Ala	Asp	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Ile	Leu	Gly	Pro	Ser	Met	Ala	Met	Arg	Ala
			35				40					45			
Trp	Gly	Gly	Gln	Asp	Gly	Ser	Cys	His	Pro	Met	Ala	Leu	Gly	Leu	Val
	50					55					60				
Gly	Ala	Pro	Arg	Thr	Pro	Gly	Val	Gly	Arg	Val	Ile	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Ser	Arg	Ala	Ala	Ser	Pro	Thr	Ser	Trp	Gly	Thr	Ser	Arg
				85					90					95	

Ser Ser Ala

<210> 143  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 143

```
Gly Trp Val Cys Ala Arg Pro Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asn Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Ile Leu Gly Pro Ser Met Ala Thr Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Leu Gly Leu Ile
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg
          85          90          95
Ser Ser Val
```

<210> 144  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 144

```
Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Pro Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Ala Leu Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Ile Ser Trp Gly Thr Phe Arg
          85          90          95
Ser Ser Ala
```

<210> 145  
 <211> 99

<212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide

<400> 145

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr His Gly Pro Ser Met Ala Met Arg Val  
 35 40 45  
 Trp Gly Gly Gln Asp Gly Ser Cys His Pro Val Asp Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 146  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide

<400> 146

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu  
 1 5 10 15  
 Val Ala Gly Asp Asn Leu Ser Pro Arg Leu Ala Gly Pro Arg Val Gly  
 20 25 30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Pro Met Arg Ala  
 35 40 45  
 Trp Gly Gly Arg Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val  
 50 55 60  
 Gly Ala Pro Arg Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser His Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 147  
 <211> 99  
 <212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 147

```

Gly Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Ser Pro Arg Ala Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Pro Thr Pro Gly Val Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Val Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

<210> 148

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 148

```

Arg Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Ala Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

<210> 149

<211> 99

<212> PRT

<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 149

```

Arg Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Glu Gly Asp Asn Leu Ser Pro Arg Leu Ala Asp Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Ala Met Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Arg Thr Pro Gly Gly Gly Arg Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

&lt;210&gt; 150

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

&lt;400&gt; 150

```

Ser Trp Val Cys Ala Arg Leu Gly Arg Leu Pro Ser Gly Arg Asn Leu
1          5          10          15
Val Gly Gly Asp Asn Leu Ser Pro Arg Leu Ala Asn Pro Arg Val Gly
          20          25          30
Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Ala Thr Arg Ala
          35          40          45
Trp Gly Gly Gln Asp Gly Ser Cys His Pro Ala Ala Pro Gly Leu Val
          50          55          60
Gly Ala Pro Gln Thr Pro Gly Val Gly His Ala Ile Trp Val Arg Ser
65          70          75          80
Ser Ile Pro Ser Arg Val Ala Ser Pro Thr Ser Trp Gly Thr Phe Arg
          85          90          95

Ser Ser Ala

```

&lt;210&gt; 151

&lt;211&gt; 99

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; anti-HCV immunogenic peptide

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 <222> (1)..(1)  
 <223> D, N, S, Y or G

<220>  
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 <223> A or V

<220>  
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 <223> R, Q, K or L

<220>  
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 <223> R, Y, C, F, H, L or P

<220>  
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<220>  
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 <222> (12)..(12)  
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 <223> L or P

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<223> G, D or S

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<223> D, V, A, G or E

<220>  
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<222> (21)..(21)  
<223> S, N or T

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<223> L or P

<220>  
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<223> S, P or F

<220>  
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<222> (25)..(25)  
<223> R or G

<220>  
<221> MISC\_FEATURE  
<222> (26)..(26)  
<223> R, H or L

<220>  
<221> MISC\_FEATURE  
<222> (27)..(27)  
<223> V or A

<220>  
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<400> 151

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Ala	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Pro	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	20	25	30	
Pro	Gly	Xaa	Ser	Xaa	Gly	Thr	Xaa	Gly	Xaa	Xaa	Xaa	Xaa	Xaa	Arg	Ala	35	40	45	
Xaa	Xaa	Xaa	Xaa	Xaa	Gly	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	50	55	60	
Gly	Xaa	Xaa	Xaa	Thr	Pro	Gly	Xaa	Xaa	Xaa	Ala	Xaa	Xaa	Xaa	Xaa	Ser	65	70	75	80
Ser	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Ser	Trp	Gly	Xaa	Xaa	Arg	85	90	95	
Ser	Xaa	Xaa																	

<210> 152  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 152

Asp	Trp	Val	Cys	Ala	Arg	Arg	Val	Lys	Leu	Leu	Ser	Gly	His	Ser	Leu	1	5	10	15
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	---	---	----	----

Ala Asp Gly Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Arg Ala Gly  
                   20                  25                  30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Met Arg Ala  
           35                  40                  45  
 Ala Gly Gly Gln Gly Gly Ser Cys Pro Pro Ala Ala Pro Val His Leu  
       50                  55                  60  
 Gly Ala Gln Met Thr Pro Gly Val Gly Pro Ala Ile Trp Val Arg Ser  
 65                  70                  75                  80  
 Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Phe Arg  
                   85                  90                  95  
 Ser Ser Ala

<210> 153  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 153

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu  
 1                  5                  10                  15  
 Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly  
           20                  25                  30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala  
       35                  40                  45  
 Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val His Pro  
       50                  55                  60  
 Gly Ala Gln Met Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser  
 65                  70                  75                  80  
 Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg  
                   85                  90                  95  
 Ser Ser Ala

<210> 154  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 154

Asp Trp Val Cys Ala Arg Pro Val Lys Leu Leu Asn Gly His Ser Leu  
 1                  5                  10                  15

Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Thr Ala Gly  
                   20                  25                  30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala  
                   35                  40                  45  
 Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Leu Val His Leu  
                   50                  55                  60  
 Gly Ala Gln Met Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser  
                   65                  70                  75                  80  
 Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg  
                   85                  90                  95  
 Ser Ser Ala

<210> 155  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 155

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Pro  
   1                  5                  10                  15  
 Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Arg Ala Glu Ala Gly  
                   20                  25                  30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Met Arg Ala  
                   35                  40                  45  
 Ala Gly Gly Gln Gly Gly Ser Cys Pro Arg Ala Ala Pro Val His Leu  
                   50                  55                  60  
 Gly Ala Gln Met Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser  
                   65                  70                  75                  80  
 Ser Ile Pro Leu Arg Val Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg  
                   85                  90                  95  
 Ser Ser Ala

<210> 156  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 156

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly Arg Ser Leu  
   1                  5                  10                  15  
 Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly  
                   20                  25                  30

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<210> 157
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
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<400> 157
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[illegible]

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<210> 158
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-HCV immunogenic peptide

<400> 158
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Asp	Trp	Val	Cys	Ala	Arg	Arg	Val	Lys	Leu	Leu	Asn	Gly	His	Ser	Leu
1				5					10					15	
Ala	Asp	Asp	Asp	Ser	Leu	Ser	Pro	Arg	His	Val	Gly	Ala	Lys	Ala	Gly
			20					25					30		

Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala  
 35 40 45

Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val His Leu  
 50 55 60

Gly Ala Gln Thr Thr Pro Gly Asp Gly Pro Ala Ile Trp Val Lys Ser  
 65 70 75 80

Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95

Ser Ser Ala

<210> 159  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 159

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu  
 1 5 10 15

Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala  
 35 40 45

Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val Gln Leu  
 50 55 60

Gly Ala Gln Thr Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser  
 65 70 75 80

Ser Ile Pro Leu Arg Ala Val Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95

Ser Ser Ala

<210> 160  
 <211> 99  
 <212> PRT  
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<220>  
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<400> 160

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu  
 1 5 10 15

Ala Asp Asp Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Met Arg Ala  
 35 40 45



Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val His Leu  
 50 55 60

Gly Ala Gln Thr Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser  
 65 70 75 80

Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95

Ser Ser Ala

<210> 161  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 161

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu  
 1 5 10 15

Ala Asp Gly Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Asp  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala  
 35 40 45

Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val His Leu  
 50 55 60

Gly Ala Gln Met Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Lys Ser  
 65 70 75 80

Ser Ile Pro Leu Arg Ala Ala Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95

Ser Ser Ala

<210> 162  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> anti-HCV immunogenic peptide

<400> 162

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu  
 1 5 10 15

Ala Asp Gly Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly  
 20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala  
 35 40 45

Ala Gly Gly Gln Gly Gly Ser Cys Pro Arg Ala Ala Leu Val His Leu  
 50 55 60  
 Gly Ala Lys Met Thr Pro Gly Gly Gly Pro Ala Thr Trp Ala Arg Ser  
 65 70 75 80  
 Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95  
 Ser Ser Ala

<210> 163  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 163

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly His Ser Leu  
 1 5 10 15  
 Ala Asp Gly Asp Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Val Thr Arg Ala  
 35 40 45  
 Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val His Leu  
 50 55 60  
 Gly Ala Gln Thr Thr Pro Gly Gly Gly Pro Ala Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Ile Pro Ser Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Ser Arg  
 85 90 95  
 Ser Ser Ala

<210> 164  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 164

Asp Trp Val Cys Ala Arg Arg Val Lys Leu Leu Asn Gly Arg Ser Leu  
 1 5 10 15  
 Ala Asp Gly Glu Ser Leu Ser Pro Arg Arg Val Gly Ala Lys Ala Gly  
 20 25 30  
 Pro Gly Pro Ser Leu Gly Thr Leu Gly Pro Ser Met Val Met Arg Ala  
 35 40 45  
 Ala Gly Gly Gln Gly Gly Ser Cys Pro His Ala Ala Pro Val Gln Ile  
 50 55 60

Gly Pro Gln Met Thr Pro Gly Asp Gly Pro Ala Ile Trp Val Lys Ser  
 65 70 75 80  
 Ser Ile Pro Ser Arg Ala Asp Ser Pro Ile Ser Trp Gly Thr Ser Arg  
 85 90 95  
 Ser Ser Ala

<210> 165  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 165

Asp Trp Val Cys Ala Gln Leu Val Arg Leu Gln Ser Gly His Asn Pro  
 1 5 10 15  
 Ala Asp Gly Asp Ser Leu Phe Pro Arg His Ala Arg Ala Glu Asp Gly  
 20 25 30  
 Pro Gly Arg Ser Leu Gly Thr Pro Gly Pro Ser Met Val Thr Arg Ala  
 35 40 45  
 Ala Gly Gly Gln Gly Gly Phe Cys Leu Leu Ala Ala Pro Asp Arg Val  
 50 55 60  
 Gly Ala Pro Thr Thr Pro Gly Glu Gly Pro Ala Ile Trp Val Arg Ser  
 65 70 75 80  
 Ser Thr Leu Ser His Ala Gly Ser Pro Ile Ser Trp Gly Ile Phe Arg  
 85 90 95  
 Ser Ser Ala

<210> 166  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 166

Asp Trp Val Cys Ala Gln Phe Val Lys Leu Pro Ser Gly Gln Asn Pro  
 1 5 10 15  
 Ala Thr Gly Gly Ser Leu Ser Pro Arg His Val Gly Ala Arg Ala Gly  
 20 25 30  
 Pro Gly Leu Ser Leu Gly Thr Leu Gly Leu Phe Met Ala Met Arg Ala  
 35 40 45  
 Val Gly Gly Gln Asp Gly Ser Cys Pro Pro Ala Ala Leu Gly His Leu  
 50 55 60

Gly Ala Pro Met Thr Pro Gly Glu Gly Leu Ala Thr Trp Val Lys Ser  
65 70 75 80

Ser Ile Pro Leu Arg Ala Asp Ser Pro Ile Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210> 167

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 167

Tyr Trp Val Cys Ala Leu His Val Arg Leu Pro Ser Gly His Ser Leu  
1 5 10 15

Ala Arg Gly Gly Ser Leu Ser Pro Arg Arg Val Val Ala Arg Asp Gly  
20 25 30

Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Val Met Arg Ala  
35 40 45

Ala Gly Gly Arg Asp Gly Ser Cys Pro Pro Ala Val Leu Gly Arg Ala  
50 55 60

Gly Ala Gln Met Thr Pro Gly Glu Asp Pro Ala Ile Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Leu His Ala Gly Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

<210> 168

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-HCV immunogenic peptide

<400> 168

Asp Trp Val Cys Ala Gln Tyr Val Arg Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Ala Asp Gly Val Ser Leu Ser Pro Arg His Ala Arg Ala Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Thr Glu Met Arg Ala  
35 40 45

Val Gly Gly Gln Asp Gly Phe Cys Pro Pro Ala Val Leu Val Leu Ile  
50 55 60

Gly Ala Gln Met Thr Pro Gly Val Asp Pro Ala Thr Trp Val Arg Ser  
65 70 75 80

Ser Thr Pro Leu His Ala Asp Ser Pro Thr Ser Trp Gly Thr Phe Arg  
                     85                    90                    95

Ser Ser Ala

<210> 169  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide

<400> 169

Asp Trp Val Cys Ala Gln Tyr Val Arg Leu Pro Ser Gly Arg Ser Leu  
 1                    5                    10                    15  
 Ala Asn Ser Val Thr Leu Ser Pro Arg Leu Ala Arg Ala Arg Ala Gly  
                     20                    25                    30  
 Pro Gly Leu Ser Pro Gly Thr Leu Gly Pro Ser Thr Gly Ile Arg Ala  
                     35                    40                    45  
 Val Gly Trp Gln Asp Gly Ser Cys Pro Pro Val Val Leu Ala Leu Val  
                     50                    55                    60  
 Gly Ala Gln Met Thr Pro Gly Val Asp Pro Ala Thr Leu Val Arg Ser  
 65                    70                    75                    80  
 Ser Ile Pro Leu Arg Val Asp Ser Pro Thr Ser Trp Gly Thr Phe Arg  
                     85                    90                    95

Ser Ser Ala

<210> 170  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide

<400> 170

Asn Trp Val Cys Ala Lys Tyr Val Arg Leu Pro Ser Asp His Asn Leu  
 1                    5                    10                    15  
 Ala Asp Gly Val Ser Leu Pro Pro Arg His Ala Arg Ala Arg Ala Gly  
                     20                    25                    30  
 Pro Gly Pro Ser Pro Gly Thr Leu Gly Pro Ser Thr Gly Met Arg Ala  
                     35                    40                    45  
 Val Val Gly Gln Asp Gly Ser Cys Pro Pro Ala Val Leu Ala Pro Ala  
                     50                    55                    60  
 Gly Ala Lys Met Thr Pro Gly Val Asp Pro Ala Thr Trp Val Arg Ser  
 65                    70                    75                    80

Ser Ile Pro Leu Arg Ala Asp Leu Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

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<210> 171
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>  
<223> anti-HCV immunogenic peptide

<400> 171

Asp Trp Val Cys Ala Gln Tyr Val Lys Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Ala Asp Gly Val Ser Leu Ser Pro Arg His Ala His Ala Arg Ala Gly  
20 25 30

Pro Gly Leu Ser Leu Gly Thr Leu Gly Pro Ser Met Gly Met Arg Ala  
35 40 45

Ala Val Gly Gln Asp Gly Phe Cys Pro Pro Val Val Leu Ala Leu Val  
50 55 60

Gly Ala Gln Met Thr Pro Gly Val Asp Pro Ala Thr Trp Val Lys Ser  
65 70 75 80

Ser Ile Pro Leu Arg Ala Asp Ser Pro Thr Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Ser Ala

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<210> 172
<211> 99
<212> PRT
<213> Artificial Sequence
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<220>  
<223> anti-HCV immunogenic peptide

<400> 172

Asp Trp Val Cys Ala Gln Cys Val Asn Leu Pro Ser Gly Arg Asn Leu  
1 5 10 15

Ala Asp Gly Gly Ser Leu Ser Pro Arg His Ala Glu Ala Arg Ala Gly  
20 25 30

Pro Gly Pro Ser Leu Gly Thr Leu Gly Pro Ser Met Gly Met Arg Ala  
35 40 45

Val Gly Gly Gln Asp Gly Ser Cys Leu Pro Val Ala Pro Ala Leu Val  
50 55 60

Gly Ala Gln Met Thr Pro Gly Val Asp His Ala Thr Trp Val Arg Ser  
65 70 75 80

Ser Ile Pro Ser Arg Val Asp Ser Pro Ile Ser Trp Gly Thr Phe Arg  
85 90 95

Ser Leu Val

<210> 173  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 173

Asp	Trp	Val	Cys	Ala	Gln	Tyr	Val	Arg	Leu	Pro	Ser	Gly	His	Asn	Pro
1				5					10					15	
Ala	Asp	Gly	Ala	Ser	Leu	Ser	Pro	Arg	Arg	Ala	His	Ala	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Leu	Gly	Thr	Pro	Gly	Pro	Phe	Met	Gly	Thr	Arg	Ala
		35					40					45			
Ala	Val	Gly	Gln	Asp	Gly	Ser	Cys	Pro	Pro	Ala	Val	Pro	Asp	Pro	Ala
	50					55					60				
Gly	Ala	Gln	Met	Thr	Pro	Gly	Ala	Asp	Pro	Ala	Thr	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Leu	Arg	Ala	Asp	Ser	Leu	Thr	Ser	Trp	Gly	Ile	Phe	Arg
			85					90						95	

Ser Ser Ala

<210> 174  
 <211> 99  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
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 <400> 174

Ser	Trp	Val	Cys	Val	Gln	Cys	Ala	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Ala	Val	Gly	Ala	Asn	Pro	Ser	Pro	Gly	Arg	Ala	Glu	Pro	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Tyr	Met	Gly	Met	Arg	Ala
		35					40					45			
Ala	Gly	Gly	Gln	Gly	Gly	Ser	Cys	Pro	Arg	Ala	Ala	Leu	Ala	His	Arg
	50					55					60				
Gly	Ala	Gln	Met	Thr	Pro	Gly	Val	Asp	His	Ala	Ile	Trp	Val	Arg	Ser
65					70				75					80	
Ser	Ile	Pro	Ser	Arg	Ala	Asp	Ser	Pro	Thr	Ser	Trp	Gly	Ile	Phe	Arg
			85					90						95	

Ser Ser Ala

<210> 175  
 <211> 99  
 <212> PRT  
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 <220>  
 <223> anti-HCV immunogenic peptide  
 <400> 175

Gly	Trp	Val	Cys	Val	Gln	Cys	Thr	Arg	Leu	Pro	Ser	Gly	Arg	Asn	Leu
1				5					10					15	
Ala	Val	Gly	Ala	Asn	Pro	Ser	Pro	Gly	Arg	Ala	Glu	Leu	Arg	Ala	Gly
			20					25					30		
Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Tyr	Met	Gly	Met	Arg	Ala
		35					40					45			
Ala	Gly	Gly	Gln	Asp	Gly	Ser	Cys	Pro	Arg	Ala	Ala	Leu	Ala	His	Arg
	50					55					60				
Gly	Ala	Gln	Met	Thr	Pro	Gly	Val	Asp	Pro	Ala	Ile	Trp	Val	Arg	Ser
65					70					75					80
Ser	Ile	Pro	Ser	His	Ala	Asp	Ser	Pro	Ala	Ser	Trp	Gly	Thr	Phe	Arg
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Ser Ser Ala

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Ala	Val	Gly	Ala	Ser	Pro	Ser	Pro	Gly	Arg	Ala	Glu	Pro	Arg	Ala	Gly
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Pro	Gly	Leu	Ser	Pro	Gly	Thr	Leu	Gly	Pro	Tyr	Met	Gly	Met	Arg	Ala
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